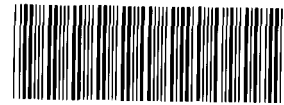


2210
PARSONS ENGINEERING SCIENCE, INC.

1700 Broadway Suite 900 • Denver, Colorado 80202 • (303) 831-8100 • Fax: (303) 831-8208

April 26, 1995
SP307:042695.02



000064524

Mr. Tim Kramer
EG&G Rocky Flats, Inc.
Rocky Flats Environmental Technology Site
P.O. Box 464, Building 080
Golden, Colorado 80402-0464

Subject: MTS 343756 GG
OU4 Solar Ponds IM/IRA
Response to EG&G Comments on the OU4 IM/IRA 60% Design Review

Dear Mr. Kramer:

Parsons ES met with EG&G on April 10, 1995 to review the 60% OU4 IM/IRA design. Enclosed are responses to the written comments that we received. Meeting minutes were issued to acknowledge comments that were received verbally. Parsons ES will modify the drawings, specifications, and design basis in accordance with the responses to these comments.

Please call me at 764-8811 or pager 687-2551 if you have any questions.

Sincerely,

Philip A. Nixon

Project Manager: Solar Pond IM/IRA

cc:

A. Ledford, EG&G
R. Anhold, EG&G
S. Cole
D. Creek

W. Edmonson
D. Kennedy
R. Lux
R. McConn

S. Stenseng
R. Wilkinson
Central Files

(I:\PROJECTS\722446\CORRESP\04269502.WPF\04/28/95)

ADMIN RECORD

1/46  **PARSONS**

IA-A-000785

M E M O R A N D U M

Date: 4 April 1995

To: Tom Greengard
From: Jim Nelson

Subject: OU4 Solar Evaporation Pond IM/IRA Project

Following is a list of comments on the OU4 SEP Project.

pg.13 (Design Document) : Runoff Erosion Resistance -
Stormwater runoff is to be calculated as a percentage of a
100,000 year event.

-Where are the calculations and equations? Document states
that analysis WILL be performed, does this mean that to date
no calculations or analysis has been performed?

-What work was done to assure that semi-arid conditions would
persist for the entire 1000 year period?

-How was the value for a 100,000 year event obtained?

pg.13 (Design Document) : Wind Erosion Resistance -
Calculations determining the yearly soil loss would be
extended over a 1000 year period.

-Where are the calculations and equations? Document states
that analysis WILL be performed, does this mean that to date
no calculations or analysis has been performed?

-Is taking a yearly total and extending it over the entire
1000 year period statistically viable or defensible?

pg.6 (Design Document) : Soil Erosion Resistance -
Calculations determining the yearly soil loss would be
extended over a 1000 year period.

-Where are the calculations and equations? Document states
that analysis WILL be performed, does this mean that to date
no calculations or analysis has been performed?

-Again, are the yearly calculations extended over 1000 years
and is an assumption of only semi-arid conditions for the
entire period defensible?

pg.16 (Design Document) : HELP model calculations were not
included in the documents. The source for the 100-year storm
event was not cited.

pg.13,17 (Design Document) and Drawing Number 51045-123

-Thickness for angular pea gravel

text = 6 inches

drawing = 2 inches

-Thickness for angular rip rap

text - not given

drawing = 30 inches total (12 inches upper layer, 18

Response to SAIC Comments
BRIAN GREENHARD Memo 4 April 95

COMMENT

RESPONSE

RUNOFF EROSION RESISTANCE

Calculations have been completed and will be included in the 90% issue.

Precipitation/Temperature (1000 year period) evaluated by HELP model.

Wind Erosion Resistance
Soil Erosion Resistance

Complete - will be issued with 90% Design Analysis is the best available under current scope of work.

HELP Model Calculation

Complete - will be included in 90% issue

Rip Rap/PBA Gravel Thickness

Will be consistent with 90% issue retention final selections.

MARK AUST

HEALTH AND SAFETY DOCUMENT COMMENTS/RESOLUTION

Project Title 011-4 SOLAR EVAP POND'S IN/IRA
Auth./HMO No. 989618 EO No. 37270 EO Dist. Date N/A
Reviewer's Name KEN MOHR Org. H&S DESIGN REVIEW
Date Reviewed 4-6-95 Phone No. 4757

Check One Bldg. #
Review 60% page 1 of 2
Final
FCO
Concurrent
Other

Item No.	Reference Page/Para/ Dwg. etc.	Comments Show Actual Proposed Reverting If Possible	A C G	R E J	Proposed Resolution (Include page or drawing number comment was incorporated in) or Justification for Rejection	Date Closed
1.	02240-4	2.2.1 CHANGE ELEV. OF 5300 FT TO 6000 FT. SEE 16010-2 2.1.2.	X		Will be made consistent based on review of specification	
2.	13941-9 3.4.1	NOTE #9 ON DWG. 51045-172 DOES NOT AGREE WITH DIMENSIONS (4' WIDE X 3' HIGH).	X		Dimensions will be removed from specification	
3.	16401-2 PART 2 2.1.1	ADD NOTE TO PROVIDE MSDS. FOR PENTACHLOROPHENOL PRESERVATIVE.	X		Will be added to submittal section	
4.	DWG. 51045-163	ON SECTIONS "A" AND "C" SHOW LOCATOR TAPE ABOVE PIPE. SAME FOR SECTIONS "C" AND "D" ON DWG. 51045-166A.	X		Will be added	

H&S DESIGN REVIEW

HEALTH AND SAFETY DOCUMENT COMMENTS/RESOLUTION

Project Title OU-4 SOLAR EVAP PONDS 'M/IRA
 Auth./HMO No. 989618 EO No. 37270 EO Dist. Date N/A
 Reviewers Name KEN MOHR Org. H&S DESIGN REVIEW
 Date Reviewed 4-6-95 Phone No. 4757

Check One Bldg. #
 Review 60% page 2 of 2
 Final _____
 FCO _____
 Concurrent _____
 Other _____

Item No.	Reference Page/Para/Dwg. etc.	Comments Show Actual Proposed Rewording If Possible	A C C	R E J	Proposed Resolution (Include page or drawing number comment was incorporated in) or Justification for Rejection	Date Closed
5.	DWG. 51045-434	EXTEND LOCATOR TAPE OVER END OF STANDPIPE IN DETAILS 1 & 2.	X		Will be performed if locator tape is present.	

11/11/95

DOCUMENT COMMENTS / RESOLUTIONS (C/R form)

Page 1 of 1

Document Type: ☐ DMP. ☐ FCO ☒ Other: GES

PROJECT TITLE OU-4 SOLAR EVAP. Ponds IM/IRA

REVIEWER'S NAME (print) R. P. Campbell

WCF / EJO # 789618 BUILDING # SITE

ORGANIZATION Env Rest Eng PHONE # 9616

CHARGE # 989620

#	REFERENCE: Page/Para/ Dwg #, etc...	COMMENTS: Show actual proposed rewording, if possible	PROPOSED COMMENT DISPOSITION:				DATE COMMENT CLOSED
			A C C	R E J	Plans to incorporate comment, OR technical justification for rejection		
1	-Design Basis	When will modeling be performed and who will do			Assume Parsons		
2	Doc 2.1.7	State that abandoned piping will be grouted rather than may. spec 02050 specifies to grout			ABANDONED PIPING, MAY ALSO BE CAPPED, DRAIN TO THE 10% FLOOD		
3	2.2.11.3	Procedures in Section IV.2.2.9.1					
	Bullet 1	+2 need to be included. Construction subcontractor will not have Section III					
4	2.2.14 thru	Address items that the Design will do or requirements that will be met. This is the design, ie "Design does include"			Will comply		
	2.2.17	not "will"					

FULL CONCURRENCE: I have reviewed the document referenced above from my organization's discipline-specific point of view, concur fully with its implementation, and hereby grant my organization's approval.

All comments and concerns I may have had about this document have been resolved to my satisfaction.

FINAL COMMENT DISPOSITION BY DEM: I have made final disposition for all comments not resolved to the satisfaction of the reviewer. Technical justification for the disposition of these comments is attached.

Design Engineering Manager (print)

Reviewer's Signature

Date

DEM's Signature

6.1.20-2(1) 9/25/92 Incorporating DMR 92021

Date

DOCUMENT COMMENTS / RESOLUTIONS (C/R form) Continuation Sheet

Page 2 of 5

PROJECT TITLE _____

REVIEWER'S NAME (print) R.F. Campbell

#	REFERENCE: Page/Para/ Dwg #, etc.	COMMENTS: Show actual proposed rewording, if possible	PROPOSED COMMENT DISPOSITION:			DATE COMMENT CLOSED
			A C C	R E J	Plans to incorporate comment, OR technical justification for rejection	
5	2.3	Need detailed specification for WAC including ASTM test methods etc.			- may need to include more info in spec 02200	
6	General	Too much use of the word "will" throughout. This is final design not conceptual or proposed ie 2.4.1 "cover will be" should be "cover is"			Sec 3.3.11 - Will comply	
7	2.4.1.1	Verify seed mix with RFETS New Sanitary Landfill			Seed mix serves a specific function and may vary from RFETS mix	
8	2.4.1.2	Need Runoff Erosion Resistance and Wind Erosion Resistance			Will be submitted w/ 90% design	
9	2.4.1.5	Calcs for 90% Title II				
10	2.4.1.11	Calcs for sand filters - 90% slope stability calcs - 90%			CALCULATIONS TO BE PROVIDED in 90% DESIGN	
11	2.4.2.6	Specification for gravel drain				

will have to specify a min. $\sim 10 \text{ cm/sec}$ in spec
hydraulic conductivity, and
test method and frequency ROL
OK

DOCUMENT COMMENTS / RESOLUTIONS (C/R form) Continuation Sheet

PROJECT TITLE _____

REVIEWER'S NAME (print) R.P. Campbell

#	REFERENCE: Page/Para/ Dwg #, etc.	COMMENTS: Show actual proposed rewording, if possible	PROPOSED COMMENT DISPOSITION:			DATE COMMENT CLOSED
			A C C	R E J	Plans to incorporate comment, OR technical justification for rejection	
12	5.0-11) and 6.0	Change System Category to 4 That's what Mark Austin made it. See 3/10/95 Rev of COEM DES-223 -Not required for protection of workers -Delete dissertation on how to select system category and 6430.1A. Just state what it is and why			Will comply	
13	App A.	I disagree that a "significant nuclear hazard potentially exists" -Is Appendix A needed as part of Title II design basis			Appendix 'A' will be DELETED FROM DOCUMENT	

DOCUMENT COMMENTS / RESOLUTIONS (C/R form) Continuation Sheet

Page 4 of 5

PROJECT TITLE _____

REVIEWER'S NAME (print) R. P. Campbell

#	REFERENCE: Page/Para/ Dwg #, etc.	COMMENTS: Show actual proposed rewording, if possible	PROPOSED COMMENT DISPOSITION:			DATE COMMENT CLOSED
			A C C	R E J	Plans to incorporate comment, OR technical justification for rejection	
14	App B Geotech Report	Did geotechnical engineer recommend any monitoring of slope such as inclinometers since slope stability and effect of seeps has been an ongoing concern - on drawings should include discussion in design basis			Will be performed under Post-closure Monitoring Program.	
15	General	No discussion of monitoring instrumentation in Design Basis Document			- ERM -	
16	Specs	Need spec 02225 for Asphalt Concrete			Will be submitted w/90%	
17		Need spec 02235 for Asphalt membrane			Will be submitted w/90%	
		- Overall specs look good				

DOCUMENT COMMENTS / RESOLUTIONS (C/R form) Continuation Sheet

Page 5 of 5

PROJECT TITLE

REVIEWER'S NAME (print) R.P. Campbell

#	REFERENCE: Page/Para/ Dwg #, etc.	COMMENTS: Show actual proposed rewording, if possible	PROPOSED COMMENT DISPOSITION:			DATE COMMENT CLOSED
			A C C	R E J	Plans to incorporate comment, OR technical justification for rejection	
18	Design Basis	No mention of ground entombment of debris			90% will address, BROWN KIMBART	
19	Drawings 51045-175	Inadequate detail for electrical power design			IN DESIGN BASIS AND SPEC.	
	-177	Panel details - how does power get to shelter			- ERM	
20	-432	What do these drawings				
	-433	show as far as utility				
	-434	removal/relocation				
21	-177	Need more information on building - include vendor cut sheets.			- ERM	
22	General	Include cut sheets for monitoring instrumentation			- ERM	
23	General	Detail Review of drawings not completed yet. Also			- ERM	

need Electrical, ITC, Civil + structural reviewers to look at will be 1-2 weeks before completed.

Page 1 of 3

555

REVIEWER'S NAME (print) Tim Kramer

60% DESIGN

BUILDING # SITE

966-8505

PROPOSED COMMENT DISPOSITION:

FINAL COMMENT DISPOSITION BY DEM: I have made final disposition for all comments not resolved to the satisfaction of the reviewer. Technical justification for the disposition of these comments is attached.

Design Engineering Manager (print)

DEM's Signature

Dalo

2.2.4 Foundation going in no matter what (?)

2.2.5 RFP → RFETS

2.2.8 704 → 904 (?)

2.2.15 Different than our construction fee from GSE?

2.4.1.1 'called'

2.4.1.2 'an' instead of 'and'

2.4.1.2 Site

2.4.2.6 pg 22, last para - "... and discharged to..."

2.4.2.6 pg 28 $1.46 \text{ } \mu\text{g/sec} = 0.0479 \text{ f/sec}$

3.0 pg 32 'Return' between DOE Order, 5400.3 - 5400.4

Table 7.2 2.5.6 credible (?)

Appendix B pg 5 B24-4 RFETS instead of RFP

~~pg 6 Delete " after foot mess - link line~~
extra

Appendix A Delete 'Appendix B' Title sheet

Appendix B 3.0 pg 2 Tierra or Terra?

RESPONSE TO Tim Kramer Comments

Comment

Response

2.2.4

FOUNDATIONS will BE CRUSHED to 2" OR LESS
AND MIXED WITH C-POND SOILS.

2.2.5

Will MODIFY to 909

2.2.8

Will MODIFY to 909

2.2.15

FINAL ADMINISTRATIVE CONTROL TO BE DIFFERENT
FROM RFBTS SECURITY REVIEW.

2.4.1.1

Comment NEEDS FURTHER CLARIFICATION (CALLED)

2.4.1.2

Will comply

2.4.2.6

Will comply

3.0

Will comply

TABLE 7.2

Comment NEEDS FURTHER CLARIFICATION

Appendix B

Will Comply

Appendix A

Will Comply

Appendix B 3.0

Proper spelling is TERRA

Specifications

Tim Kramer

General Submittal, state provide 15-30 prior to construction - All construction or just that particular section?

02050 1.1.3 why 10' (?)

02050 3.2.1 Sub contractor or Contractor (1.1.3 (2))

02150-2 2.1.2 PM10 or less? PM10 or greater?

02150 3.1.3 (1) RCRA or RCA

02200-9 2.1.11 (2) Pump, other mix. equip, corrugated metal - products, etc.

02200-17 3.3.11 see 2.1.11 (2)

02210-4 Membrane $\pm 0.05"$

02240-5 2.3.1 50 foot-candle - minimum? nominal?

02830-3 2.1.1 44" (?)

02930-7 3.2.1 Subcontractor maintain for 1 year?

13941-3 SOP GT.24 OKr

Response to Tim Kerner Comments

Comment

Response

02050 3.2.1

Will change to read 'AT A DISTANCE SPECIFIED FOR RIGTS.'

02050 1.1.3

CHANGE SUBCONTRACTOR TO CONTRACTOR

02150 - 2.1.2

PM10 OR LESS - WILL MODIFY TEXT

02150 3.1.3.

TEXT WILL BE MODIFIED TO READ 'RCA'

02200-9 2.1.11

Will Comply

02200-7 3.3.11

Will Comply

02210-4

Will Comply

02240-5

TEXT TO BE MODIFIED TO READ 'NOMINAL'

02830-3 2.1.1

'44 inches' will be removed from text and will only be shown on the drawings

02930-7 3.2.1

EG&G to investigate contractor maintenance

13941-3

- ERM -

Page ___ of ___

556

REVIEWER'S NAME (print) R.R. Ahl
ORGANIZATION SP/CM PHONE # 8605 / 11247

[illegible]

FINAL COMMENT DISPOSITION BY DEM: I have made final disposition for all comments not resolved to the satisfaction of the reviewer. Technical justification for the disposition of these

Design Engineering Manager (or) equivalent

DEM'S Signature _____ Date _____

5) Designate items that require salvage, storage, reuse, and/or relocation.

1.2 REFERENCE DOCUMENTS

None.

1.3 SUBMITTALS

1.3.1 Procedures

The Subcontractor shall submit a demolition schedule and work plan to the Contractor for approval not less than 15 working days prior to start of the work. The work plan and schedule shall include proposed demolition start dates and durations, equipment to be used, and proposed protective measures. Demolition of utilities work plan shall include:

- A list of the utility or utilities to be exposed in each excavation.
- Status of each utility (i.e., active or inactive) with verification documentation. *do I understand this?*
- Documentation on physical site location with verification. *are we expecting subcontractor to perform work to verify status?*
- Subcontractor's list of required personnel and equipment for each excavation. *this is engineering work. ie sub will not be permitted to work until a status is determined*
- Description of Subcontractor's penetration method for pressure relief and/or draining of each utility.
- Containment/collection method and procedure for draining each utility.
- Contingency plan to cover leaking utilities, contaminated materials or other unexpected occurrences during excavation and construction activities.
- Location and method of storage for excavated material.
- Methods and procedures for the determination of the level and type of contamination in the excavated material. *level what?*
- Description of work to be accomplished on each utility (i.e., removal, abandonment, and grouting) including materials, methods, and procedures.
- Method and procedure for the backfill of each excavation.
- The Subcontractor shall review the utilities removal logic diagram (Figure 1) prior to completing a utility demolition work plan to field determine the disposition of each utility.

17

when, how, who. we need to do this now, in the subcontract
The Contractor will designate items that require salvage, storage, reuse, and/or relocation. Items damaged in removal shall be repaired and refinished, or replaced by the Subcontractor with new matching items, as required by the Contractor.

PART 3 EXECUTION

3.1 DEMOLITION

The Subcontractor shall perform all work in an orderly manner and shall avoid damaging equipment, property, or construction not being demolished. The Subcontractor shall keep all roads, sidewalks, and parking areas that are not part of this project usable at all times.

3.2 UTILITIES

3.2.1 Existing Utilities

The Subcontractor shall not disturb or damage existing utilities that are to remain in place. Special precautions shall be taken by the Subcontractor to avoid the disturbance or interference with site operations. The Subcontractor will provide lockout/tagout for electrical utilities within 10 feet of excavations.

3.2.2 Utilities Requiring Excavation, Removal, and Relocation

- 1) The following materials are expected to be encountered during the utilities excavation, removal, and relocation:
 - a) Cement asbestos piping (CAP)
 - b) Vitrified clay pipe (VCP)
 - c) Cast iron pipe (CI)
 - d) Steel pipe (STL)
 - e) Stainless steel piping (SS)
 - f) Polyvinylchloride pipe (PVC)
 - g) Corrugated metal pipe (CMP)
 - h) Rigid steel electrical conduit
 - i) Polyvinylchloride (PVC) electrical conduit

procedures, and that will adequately protect the operator and minimize exposure of workers and others to contaminated material.

2.2 ITEMS SALVAGED FOR REUSE, STORAGE, OR RELOCATION

The Contractor will designate items that require salvage, storage, reuse, and/or relocation.

into when how? AT?!! How can I bid this?

PART 3 EXECUTION

3.1 GENERAL

3.1.1 Site Inspection

The Subcontractor shall inspect the site to determine the nature, location, size, and extent of vegetative material, debris, and obstructions to be removed or preserved, as specified herein.

3.1.2 Traffic

The Subcontractor shall conduct clearing, grubbing, and regrading operations to ensure minimum interference with roads, walks, and adjacent facilities. The Subcontractor shall not close or obstruct roads, walks, or adjacent operational facilities without permission from the Contractor.

written

3.1.3 Protection of Existing Structures and Facilities

The Subcontractor shall provide protection necessary to prevent damage to existing structures and facilities which are to remain in place. The Subcontractor shall protect structures and facilities on adjoining properties. The Subcontractor shall restore or replace damaged property to original condition. Items damaged in removal shall be repaired and refinished, or replaced by the Subcontractor with new matching items and as required by the Contractor.

3.1.4 Salvageable Items

The Subcontractor shall carefully remove items indicated by the Contractor or on the drawings to be salvaged, and shall deliver the items for storage to locations designated by the Contractor. Items damaged in removal shall be repaired and refinished, or replaced by the Subcontractor with new matching items as required by the Contractor.

3.1.5 Vegetative Materials

The Subcontractor shall save and protect from construction damage, all vegetative materials (trees, shrubs, grass, and other vegetation) beyond the limits of required clearing, grubbing, and regrading. The Subcontractor shall restore or replace damaged vegetative materials to original condition and as required by the Contractor.

3.1.6 Protection of Monuments and Other Permanent Surface Features

The Subcontractor shall locate and mark existing monuments and markers before construction operations commence and shall protect monuments and markers during construction. The subcontractor shall restore or replace damaged monuments and markers to original condition and as required by the Contractor.

do we have plans that would allow a reasonable approx. of the location of these monuments

3.2 CLEARING, GRUBBING, AND REGRADING

3.2.1 Clearing and Grubbing

The Subcontractor shall clear the site of trees, shrubs, and other vegetation, except for those indicated by the Contractor to be saved and protected. The Subcontractor shall completely remove stumps, roots, and other debris protruding through the ground surface.

3.2.2 Removal of Improvements

The Subcontractor shall remove existing above-grade and below-grade improvements as indicated on the drawings and in accordance with Section 02050 of these specifications.

3.2.3 Regrading

The Subcontractor shall regrade areas to obtain original existing grade unless indicated otherwise on the drawings, or as directed by the Contractor.

3.2.4 Reclamation Seeding, Mulching, and Fertilizing

The Subcontractor shall seed, mulch, and fertilize disturbed areas in accordance with Section 02930 of these specifications.

3.3 DISPOSAL OF WASTE AND DEBRIS MATERIALS

3.3.1 Burning

The use of burning at the project site for the disposal of refuse and debris shall not be permitted.

3.3.2 Organic Material

what is the final disposition

Organic materials including grass, trees, shrubs, stumps, roots, and other organic debris removed due to clearing activities shall be stockpiled by the Subcontractor and as approved by the Contractor. The Subcontractor shall construct stockpiles with surface water runoff controls and in accordance with Section 02140 of these specifications. The Subcontractor shall protect stockpiles to prevent wind erosion.

3.3.3 Crates, Equipment, and Debris

Crates, drums, equipment, and debris located in the area to be cleared shall be relocated by the Subcontractor as directed by the Contractor.

3.3.4 Disposal

The Subcontractor shall remove all materials not designated for reuse or salvage. These materials shall be disposed of as indicated by the Contractor.

3.4 DAMAGED AREAS

DIVISION 1

Added to Division 1

The Subcontractor shall confine clearing, grubbing, and regrading operations to within those areas required for utility installation or as directed by the Contractor. Any areas outside the designated areas that are damaged or disturbed by the Subcontractor's operations shall be reclaimed by the Subcontractor. Reclamation shall be in accordance with Section 02930 of these specifications.

3.5 ACCEPTANCE

Clearing, grubbing, and regrading not in accordance with the requirements of this specification shall be repaired and/or replaced by the Subcontractor at the Subcontractor's expense. The Subcontractor shall submit a description of the repair and/or replacement methods to the Contractor for approval before use. Acceptance criteria for repaired and/or replaced clearing, grubbing, and regrading shall be in accordance with the original requirements of this specification.

END OF SECTION

PART 2 PRODUCTS

2.1 EQUIPMENT AND MATERIAL REQUIREMENTS

2.1.1 Equipment

- 1) All equipment and tools used by the Construction Subcontractor to perform the work shall be subject to inspection by the Contractor before the work is started and shall be maintained in satisfactory working condition at all times.
- 2) The Subcontractor's equipment shall be adequate and be capable of dewatering and controlling water prior to and throughout construction as required in this specification and the drawings.

2.1.2 Materials

- 1) All materials shall be furnished by the Subcontractor and shall be subject to approval by the Contractor.
- 2) Maintenance, repairs and replacement of materials damaged by the Subcontractor shall be the responsibility of the Subcontractor.
- 3) Materials used for dewatering and controlling stormwater are left to the discretion of the Subcontractor but must be clearly specified in the Dewatering Plan and the Stormwater Control Plan and are subject to approval by the Contractor

PART 3 EXECUTION

3.1 GENERAL

- 3.1.1 All standing water shall be sampled by the Subcontractor before removal and disposal. Chemical analysis shall be provided by the Subcontractor in the on-site laboratory.

- 3.1.2 The Subcontractor shall perform all construction work in areas free from standing water. Suitable water control measures shall be constructed at all locations where construction work may be affected by ponded water, piped water, stormwater, or groundwater at the time of the work.

- 3.1.3 The Subcontractor shall keep excavations free of water at all times. Surface water around the periphery of all excavation areas shall be diverted from entering the excavation by construction of temporary ditches, berms, or other means of control. All ponded areas shall be dewatered by either surface flow exits or by pumping. The Subcontractor shall have portable pumps with adequate capacity to expeditiously remove

22

all we leaving
this decision to
the sub?
this org
may change
in transition
Need to supply test results to Surface Water Division for
decision of DISPOSITION OF INCIDENTAL WATER.

3.3 INSPECTIONS AND REPAIRS

*do we expect to
get a copy of this
where specified.
to submit.*

- 1) The Subcontractor shall inspect temporary water control structures and materials on a daily basis and shall record inspection findings on the daily work log.
- 2) The Subcontractor shall provide means to control surface water from flowing into unauthorized areas.
- 3) The Subcontractor shall remove debris and sediment build-up from the temporary control structures as required to maintain the intended flow path as approved in the Stormwater Control Plan.
- 4) Should an overflow or breach condition be encountered or any other damage observed, repair and/or replacement of the damaged area shall be implemented immediately by the Subcontractor.
- 5) Acceptance criteria for repaired and/or replaced temporary water control structures shall be in accordance with the requirements of this section and as set forth in the approved Stormwater Control Plan.

3.4 DISTRIBUTION AND DISPOSAL OF WATER COLLECTED DURING CONSTRUCTION

3.4.1 Noncontaminated Stormwater Runoff

- 1) Surface water flows diverted from around the construction areas shall be routed in a controlled manner to a point of discharge approved by the Contractor.
- 2) Areas approved to receive diverted stormwater runoff are as follows:
 - a. The 60-inch CMP culvert north of SEP 207 C.
 - b. The 48-inch CMP culvert east of SEP 207 B center, and
 - c. Any area approved by the Contractor.

3.4.2 Contaminated Water

The Subcontractor shall be responsible for the collection and transportation of the contaminated water to the Contractor's designated treatment facility. The transportation distance shall be one mile. The Subcontractor shall notify the Contractor before transporting the contaminated water.

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Occupational Safety and Health Administration

Code of Federal Regulations, Part 1926, Subparts P and G.

U.S. Department of Transportation Federal Highway Administration

FP-85 703.06 Aggregate for Subbase, Base, or Surface Courses; Cold Asphaltic Concrete Pavements and Road Mixed Asphaltic Concrete Pavements.

1.3 SUBMITTALS

1.3.1 Test Reports

The Subcontractor shall submit test results data as specified herein. Reports will be presented in accord with all reference documents.

1.3.2 Procedures

The Subcontractor shall submit a Quality Control (QC) System Manual, as set forth in Section 1.4 of this specification, and demonstrate construction placement methods in accordance with this specification for Contractor approval.

1.3.3 Certifications

Prior to final acceptance of the work specified herein, the Subcontractor shall submit a letter to the Contractor verifying conformance to the requirements identified in this specification.

1.3.4 Records

The Subcontractor shall submit to the Contractor all field and laboratory records from surveying, layout, laboratory, and field inspection activities.

1.4 QUALITY ASSURANCE

The Subcontractor shall prepare, maintain, and use a written QC System Manual for the work performed. The QC System Manual shall include requirements to ensure the application of the latest design documents and for incorporation of approved changes. As a minimum, the Subcontractor shall develop and maintain appropriate records that verify the quality and acceptance of materials, application of approved procedures, and appropriate approval signatures for acceptance of work performed.

*Does this mean that
1, 2 specify for additional
submittals
Question answered in
Review*

<u>Nominal Square Opening Sieve Size</u>	<u>Percent Passing</u>
--	------------------------

No. 10	100
No. 30	60 - 100
No. 40	40 - 80
No. 50	15 - 65
No. 100	0 - 20
No. 200	< 5

Pre-acceptance QC testing of proposed Backfill Sand shall be in accordance with Section 3.4 of this specification.

PART 3 EXECUTION

3.1 PROTECTION AND SAFETY

- Need to include (1) HSP manual in Bid documents*
- 3.1.1 The Subcontractor shall keep all roads, sidewalks, and parking areas that are adjacent or are a part of this project usable at all times. The Subcontractor shall provide all necessary barricades, temporary walkways, lights, signs, signals, etc., for the protection of the workers and the public, as established by the Contractor or the Occupational Safety and Health Administration (OSHA) Construction Safety and Health Regulation 29 CFR, Part 1926, Subpart G, Signs, Signals, and Barricades, whichever is more stringent. *HSP*
- 3.1.2 For excavations, trenching, and shoring, the Subcontractor shall comply with Section 02222, Excavation, Trenching, and Backfilling.
- 3.1.3 The Subcontractor shall provide protection necessary to prevent damage to existing structures and facilities indicated on the drawings or indicated by the Contractor to remain in place. The Subcontractor shall restore damaged property to original condition, and obtain approval from the Contractor.
- 3.1.4 The Subcontractor shall secure all borrow and laydown areas.
- 3.1.5 The Subcontractor shall mark or otherwise indicate the location, and protect existing monuments and markers before construction operations commence. The Subcontractor shall be responsible for the marking and/or protection of all necessary objects.
- 3.1.6 During installation operations, a representative of the Subcontractor shall be present at all times to observe and identify any areas requiring investigation. The Subcontractor shall notify the Contractor immediately upon the discovery of any deviations from this specification.

25

- c) Topography plat of final surface for each of the engineer cover layers;
- d) Topography plat of final surface of the engineered cover;
- e) A final survey plat showing the topography of the engineered cover and the surrounding project site (including the regraded hillside north of the cover, all access roads, all beams, ditches and swales, the reclaimed construction area east of the engineered cover, and all new and/or altered structures and utilities;

All topography plats shall be based upon the Rocky Flats grid and all project benchmarks. In addition to the above noted submittals, all plats shall also be submitted in electronic format.

- 3) The Subcontractor shall not proceed with placement of an overlying layer or with subsequent work phases until the Surveyor has completed its survey measurements and the data have been reviewed and accepted by the Contractor.

1.3.2 Certifications

Prior to final acceptance of the work specified herein, the Subcontractor shall submit a letter to the Contractor verifying conformance to the requirements identified in this specification.

1.3.3 Records

The Subcontractor shall submit to the Contractor for information, all field notes from surveying, layout activities. These notes shall be submitted at the end of the project.

1.4 QUALITY ASSURANCE

*Review mtg. answer: is this a conflict w
different rgmts. for diff. docs
"end of each day" 210-1.3.3 2)*

The Subcontractor shall be responsible for protecting and maintaining all horizontal and vertical control points during construction.

1.4.1 Accuracy

Optical survey, tape measurement, and electronic measurement shall have a minimum accuracy of ± 0.01 feet in horizontal locations and ± 0.01 feet in elevations or as superseded by criteria set forth in Section 02222 and others of these specifications.

1.4.2 Tolerances

The Subcontractor shall survey all placed materials within the tolerances specified below:

SECTION 02240

SOIL TESTING LABORATORY

PART 1 GENERAL

1.1 SCOPE OF WORK

1.1.1 Work Included

The Subcontractor shall furnish a complete Soil Testing Laboratory (STL) of modular type construction. The complete STL shall include all materials, labor, tools, and equipment required to conduct soil testing at the site, and shall be in accordance with all referenced documents of this specification and as shown on the drawings.

1.1.2 Related Work Specified Elsewhere

- 1) Electrical Systems shall be in accordance with Section 16010 of these specifications.
- 2) Basic Electrical Materials & Methods shall be in accordance with Section 16050 of these specifications.
- 3) Overhead Electrical Systems shall be in accordance with Section 16401 of these specifications.
- 4) Grounding shall be in accordance with Section 16450 of these specifications.
- 5) Lighting shall be in accordance with Section 16520 of these specifications.

1.1.3 Work to be Performed by Others

The Contractor will perform the following work:

- 1) Review and approve the STL design criteria as described by this specification;
and
- 2) Approve the location site for the STL.

*this looks a little
like a D-B crit.*

*is the STL intended to
become permanent
Rocky Flats
property?*

PART 3 EXECUTION

3.1 PROTECTION AND SAFETY

- 3.1.1 The Subcontractor shall comply with the rules and regulations of OSHA Construction Safety and Health Regulations 29 CFR, Part 1926, Subpart P, Excavation, Trenching, and Shoring, and shall comply with the Rocky Flats Health and Safety Practices (HSP) Manual, Section HSP-12-08. The Subcontractor shall refer to OSHA Pamphlet 2226, Excavation and Trenching Operations, as an additional aid. The Subcontractor shall comply with the rules and regulations of OSHA Construction Safety and Health Regulations 29 CFR, Part 1926, Subpart G, Signs, Signals and Barricades.

Note: RFETS considers all soils at Rocky Flats to be ^{OSHA} type C soils unless certified by Professional Engineer.

- 3.1.2 During excavation and trenching operations, a representative of the Subcontractor shall be present at all times to observe and identify any areas requiring investigation. Areas where groundwater saturation is above the defined depth of excavation as shown on the drawings as well as buried debris, undefined pipes or utilities or any soils of peculiar nature that are encountered during excavation and trenching shall be brought to the immediate attention of the Contractor.

3.2 EXISTING UTILITIES

- 3.2.1 There are existing utilities buried within the limits of the construction area.

- 1) The Subcontractor shall hand-excavate within 6 horizontal feet or within 12 vertical inches (or as directed by the Contractor) in areas where existing utilities have been identified.
- 2) If excavation is within 10 feet of any existing high voltage or high hazard electrical power utility (whether underground, overhead, or at the side of the excavation), Lockout/Tagout is required. The Subcontractor shall provide 24-hour notice to the Contractor so that the Contractor can arrange for and perform this Lockout/Tagout. *Reference HSP manual for definition of high voltage.*

- 3.2.2 The Subcontractor shall notify the Contractor immediately of any existing utilities which were not indicated when encountered during excavation.

- 3.2.3 The Subcontractor shall obtain approval from the Contractor before backfilling existing utilities.

3.3 GENERAL REQUIREMENTS FOR EXCAVATION

- 3.3.1 The Subcontractor shall be solely responsible for the safety of all temporary cuts and fills. Slope lines indicated on the drawings for temporary cuts do not represent the actual slope to which the excavation must be made to safely perform the work.

- a) Backfill compaction to 95 percent of Standard Proctor density shall be required for all trench areas crossing under access roads or areas expected to receive vehicular traffic.
 - b) Backfill Compaction to 90 percent of Standard Proctor density shall be required for all other areas outside of the engineered cover that are not designated traffic areas.
 - c) Compaction requirements for trench backfill on the engineered cover shall meet the original values specified in Section 02200, Earthwork, for each of the engineered covered components affected.
 - d) A minimum of one field compaction test and one density/moisture test shall be required for each 50 linear feet of utility trench for each lift and for each 500 square feet of backfill area. More compaction tests shall be required initially or upon a change in material in order to establish the compaction method and materials.
 - e) Moisture content shall be 2 percent (\pm) of optimum moisture.
- 4) The Subcontractor shall submit laboratory test results for the moisture-density relationships for the pipe bedding, and imported suitable backfill material. These will provide the Contractor with the maximum density and the optimum moisture content for the respective materials to be used in the work.

please add this to 1.3.1 for consistency

3.10 INSPECTION

- 3.10.1 The Subcontractor shall be responsible for in-process inspection during performance of all work.
- 3.10.2 In addition to inspection by the Subcontractor, the Contractor reserves the right to inspect all work for compliance with the requirements of this specification.

3.11 ACCEPTANCE

Work not in compliance with this specification, the Subcontractor shall submit a description of the repair and/or replacement methods to the Contractor for approval before use. Acceptance criteria for repaired and/or replaced excavations, trenches, and backfillings shall be in accordance with the original requirements of this specification.

END OF SECTION

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2.2.5 The supply and exhaust system shall include a High-Efficiency Particulate Air (HEPA) filter system, @99.97% minimum efficiency, to prevent contamination to atmosphere. Filters will also be at the enclosure inlet to prevent movement of contamination within the enclosure to the operating area in the event of a flow reversal.

2.2.6 Effluent monitoring capabilities shall be designed into the HEPA filtration system to monitor discharges from the operating enclosure as required by DOE 6430.1A. The determination of the need for effluent monitoring shall be made according to 40 CFR 61, Subpart H, National Emission Standards for Emissions of Radionuclides other than Radon from DOE Facilities. All required monitoring will be performed in accordance with 40 CFR 61, DOE Order 5400.5 and DOE/EH-0173T.

May place in Div. 1

2.2.7 The STL shall have radiological Continuous Air Monitoring (CAM)/sampling capabilities in all locations in accordance with ANSI N42.18, N 13.1, and N323. This design allows for air monitoring to occur in all locations of the STL during usage. The STL shall be constructed with the capability to obtain sample streams from each area within the STL.

*All we provide
all of these
documents
to the bidder*

2.3 ELECTRICAL

2.3.1 Lighting will be with fluorescent fixtures. Lighting levels shall be 50 foot-candles in all areas.

2.3.2 The electrical system installation shall be per NFPA 70, National Electrical Safety Code, 1993, and in accordance with the National Electrical Code (NEC) and DOE 6430.1A, Division 16.

2.3.3 All equipment shall be installed, tested, and placed in operation in accordance with respective manufacturer's recommendations and in accordance with Sections 16010, 16050, 16401, 16450, and 16520 of these specifications

2.4 FIRE PROTECTION

2.4.1 The fire suppression and alarm systems shall be provided in accordance with NFPA 17, NFPA 70, NFPA 72 and DOE/EV-0043. Activation of any smoke detector or manual fire alarm pull station shall cause a local audible and visual alarm in the STL.

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3.5.6 The Subcontractor shall not place concrete in rainy weather. The Subcontractor shall schedule placement of concrete when the atmospheric temperature in the shade is above 40 degrees Fahrenheit (°F) and rising. Whenever air temperature is 85°F or higher during concrete placement, the Subcontractor shall take special precautions to prevent concrete from drying and setting too rapidly. Procedures to be used to prevent rapid drying and setting shall be the responsibility of the Subcontractor, and shall conform to ACI 305.

3.5.7 The Subcontractor shall obtain permission from the ~~Subcontractor~~^{Contractor} before pouring concrete whenever air temperature is below 40°F. Special precautions shall be taken by the Subcontractor to protect concrete from freezing. ~~Freeze~~ protection procedures to be used shall be the responsibility of Subcontractor and shall conform to ACI 306.

3.5.8 Tolerances for cast-in-place concrete shall be in accordance with ACI 301 and ACI 347. In case of conflict, ACI 347 shall govern over ACI 301.

3.6 MECHANICAL AGITATION

3.6.1 Immediately after concrete is deposited, the Subcontractor shall vibrate the plastic concrete mass in a manner approved by the Contractor that will fill air pockets and work the mixture into corners and around reinforcement bars and supports.

3.6.2 The Subcontractor shall provide a vibrator of flexible electric type or approved compressed-air type. The vibrator shall have a minimum 1-1/2 horsepower motor and maintain not less than 9,000 cycles per minute when immersed in concrete.

3.6.3 The Subcontractor shall not place the vibrator against reinforcement bars or forms, and shall not use the vibrator to transport concrete within forms.

3.7 FINISHING CONCRETE

3.7.1 The Subcontractor shall screed and initial float finish all horizontal concrete surfaces including additional floating and troweling as required to completely embed all aggregate. Initial finish surfaces shall be free of irregularities of either height or depth exceeding 1/4 inch as measured by a 10-foot straight-edge along the surface.

3.7.2 Immediately after initial monolithic finish as specified above, the Subcontractor shall brush surfaces with a stiff bristle brush to provide a broomed finish. The Subcontractor shall brush in parallel strokes at right angles to the normal flow of traffic.

3.8 CURING

3.8.1 The Subcontractor shall protect concrete against loss of moisture for at least 7 days. For horizontal surfaces, the Subcontractor shall use sheet material lapped at least 4 inches and

fastened or sealed in place. The Subcontractor shall leave the forms in place for vertical surfaces for a minimum of 24 hours after completing concrete pouring in those forms.

- 3.8.2 The Subcontractor shall not use a curing compound on a concrete surface to which future concrete will be bonded.

3.9 PATCHING

- 3.9.1 Immediately after removal of forms, the Subcontractor shall remove all fins and loose material.

- 3.9.2 The Subcontractor shall remove from solid concrete all honeycomb, aggregate pockets, and voids over 3/4 inch in diameter.

- 3.9.3 The Subcontractor shall fill chipped holes with epoxy grout or neat cement grout, and shall finish holes flush to adjacent surfaces. Grout shall be in accordance with Section 03600 of these specifications.

- 3.9.4 The Subcontractor shall damp-cure neat cement grout patchwork for 48 hours.

3.10 INSPECTION

- 3.10.1 The Subcontractor shall be responsible for in-process inspection during performance of all work. As a minimum, the Subcontractor shall inspect the preparation, placing, mechanical agitation, finishing, curing, and patching of cast-in-place concrete.

- 3.10.2 In addition to inspection by the Subcontractor, the Contractor reserves the right to inspect all work for compliance with the requirements of this specification.

3.11 TESTING

3.11.1 General

The Subcontractor shall be responsible for performance of all testing. The Subcontractor shall submit test records to the Contractor.

3.11.2 Slump Tests

The Subcontractor shall measure and record the slump of concrete at the point of discharge from the mixer in accordance with ASTM C 143. The Subcontractor shall provide one slump test per truckload of concrete.

Should this be included in submit test records

- 4) Review and approve results of quality assurance tests for compliance with this specification;
- 5) Document and monitor corrective actions; and
- 6) Perform final inspection and acceptance of the TDR system installation.

1.2 REFERENCE DOCUMENTS

- 1) National Electric Code
- 2) National Electric Manufacturer's Association (NEMA), Standard Enclosure Ratings

These Codes and Standards set minimum requirements which may be exceeded by the Manufacturer or Subcontractor, if demonstrated to the Contractor an equal or superior design or materials are available. In the event of any apparent conflict between standards, codes, or this specification, the Manufacturer or Subcontractor shall advise the Contractor of such conflicts. Conflicts, alternates, or substitutes must be approved by the Contractor in writing to the Subcontractor prior to implementation.

1.3 SUBMITTALS

1.3.1 Material and Equipment Descriptions

The Subcontractor shall submit no later than 30 days prior to commencement of Work to the Contractor a list of materials and equipment incorporated into the Work by the Subcontractor. The materials list shall be supported by sufficient descriptive literature, such as catalog cuts, diagrams, and other data published by the Vendor or Manufacturer, to demonstrate compliance with relevant codes, standards, and specifications.

1.3.1 Procedures

The Subcontractor shall submit to the Contractor specifications, and installation, operation, and maintenance requirements for equipment installed by the Subcontractor, including, materials, cables, fittings, connectors, and other equipment.

1.3.2 Certifications

- 1) Prior to final acceptance of the work specified herein, the Subcontractor shall submit a letter to the Contractor verifying conformance to the requirements identified in this specification.

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- 2) Prior to installation of any equipment, the Subcontractor shall provide certificates of warranty of all equipment.

1.3.3 Records

The Subcontractor shall submit to the Contractor all records of equipment or material inspection and testing performed by the Subcontractor. Records shall include, but not be limited to, testing performed by Vendor and/or Manufacturer on equipment or materials, prior to or upon delivery.

1.4 QUALITY ASSURANCE

The Subcontractor shall prepare, maintain, and use a written QC manual for the work performed. The QC manual shall include requirements to ensure the application of the latest design documents and for the incorporation of approved changes. At a minimum, the Subcontractor shall develop and maintain appropriate records that verify the quality and acceptance of materials, applications of approved procedures, and appropriate approval signatures for acceptance of work performed.

are these records supposed to be submitted?

PART 2 PRODUCTS

2.1 EQUIPMENT AND MATERIALS

2.1.1 Equipment

All equipment and tools used by the Subcontractor to perform the work will be subject to inspection by the Contractor before work is started and shall be maintained in satisfactory working condition at all times. The Subcontractor's equipment shall be adequate for, and have the capability of fulfilling, the requirements specified herein.

2.1.2 Time Domain Reflectometry Wave Guides

The Subcontractor shall provide and install the following components of the TDR system:

- 1) Wave guides shall be heavy-duty buriable type as manufactured by Soilmoisture Equipment Corp., Santa Barbara, California or approved equal.
- 2) Guide rods shall be 20 centimeters in length and shall be constructed entirely of stainless steel.

inspection, installation or testing performed by the Subcontractor or Others as specified in Part 3 of this Section.

- 3) Upon delivery of the Inclinometers and associated equipment, the Vendor of the Inclinometers and associated equipment shall certify in writing to the Subcontractor the working condition of the delivered equipment. The Vendor shall furnish at his own expense, all manpower, equipment, materials and incidentals to make such certification, at no additional expense to the Owner, Contractor or Subcontractor.
- 4) Alternates proposed by the Vendor, Manufacturer or Subcontractor must be submitted to the Contractor for approval. The Contractor must approve any alternates in writing to the Vendor, Manufacturer or Subcontractor, prior to being implemented by the Subcontractor.
- 5) The Contractor shall, at his discretion, conduct tests and inspections of Inclinometers and associated equipment throughout Work performed by Subcontractor. Contractor will not be liable for any costs incurred by Subcontractor associated with delays in construction due to such additional testing. Subcontractor will rectify to the satisfaction of Contractor, and at his own expense, any deficiencies identified by Contractor during such additional testing and inspections. Testing performed by Contractor, if any, will be conducted independently of, and in addition to, tests performed by Subcontractor. Required testing to be performed by Subcontractor is described in Part 3.3 of the Section.
- 6) Contractor shall calibrate the Inclinometer per Manufacturer's recommended procedures. Calibration will be conducted by Contractor at no additional cost to Subcontractor. Contractor will not be liable for any costs incurred by Subcontractor associated with delays in construction due to calibration.
- 7) The Contractor shall inspect job conditions during the performance of Work by the Subcontractor in accordance with paragraph 3.1 of this section.
- 8) The Contractor shall perform final inspection and testing of the ISSMS equipment prior to final payment to the Subcontractor.

1.2 REFERENCE DOCUMENTS

All construction activities must be in compliance with the following Procedures

Response to Ralph Anshold Comments

Comment

Response

02050	1.3.1	2 nd Bullet	This Bullet will be deleted, utility drawings to be updated by EG&G.
02050	1.3.1	SALVAGE	SALVAGE, STORAGE, LANDFILL DISPOSAL items HAVE BEEN DESIGNATED AND will be included in SPECIFICATION 02110.
02110-3	2.2		Same comment as above
02110-4	3.1.6		Reasons EG will include any DOWNGRADES EXISTING BENCHMARKS.
02140-3	3.1.1		Will include STATEMENT REGARDING TEST RESULTS BE SUBMITTED TO ROCKY FLATS SURFACE WATER DIVISION FOR DECISION OF DISPOSITION OF WASTEWATER.
02140-5	3.3		Will include STATEMENT THAT WORK LOGS SHALL BE SUBMITTED TO THE CONTRACTOR DAILY.
02200-12	3.1.1		HSP Manual will be included in THE BID DOCUMENTS.
02222-5	3.1.1, 3.2.2		Will Comply
02222-9	3.3.1	4)	THIS STATEMENT will be ADDED to PART 1.3.1 OF THIS SPECIFICATION
02240-1	1.1.1		THIS SECTION will be MODIFIED to STATE THAT THIS IS A MOBILE TESTING LAB WITH NO SPECIFIC INTENTION OF BECOMING PERMANENT ROCKY FLATS PROPERTY.

COMMENT

Response

02240-5 2.2.6

REQUIRED SECTION OF SUBJECT DOCUMENTS
WILL BE PROVIDED TO SELECTED BIDDERS.

03300-7 3.5.7

SECOND 'SUBCONTRACTOR' WILL BE
CHANGED TO READ 'CONTRACTOR'

03300-8 3.11.1

WILL COMPLY - SUBMITTAL SECTION WILL
BE MODIFIED

11540-2 1.3.1

Response REQUIRED BY ERM

11540-3 1.4

Response REQUIRED BY ERM

11922-2 1.2

Response REQUIRED BY ERM

MARK AUSTIN

HEALTH AND SAFETY DOCUMENT COMMENTS/RESOLUTION

Project Title OU-4 SOLAR EVAP POND Bldg. # 1
Auth./MWO No. 989618 EO No. 37170 EO Dist. Date N/A
Reviewers Name REN MOHR Org. H&S DESIGN REVIEW
Date Reviewed 4-6-95 Phone No. 4757
Check One
Review 60% Page 1 of 2
Final _____
FCO _____
Concurrent _____
Other _____

Item No.	Reference Page/Para/Dwg. etc.	Comments Show Actual Proposed Rewording If Possible	A C C	R E J	Proposed Resolution (include page or drawing number comment was incorporated in) or Justification for Rejection	Date Closed
1.	02240-4	2.2.1 CHANGE ELEV. OF 5300 FT TO 6000 FT. SEE 16010-2 2.1.2,	X		Will be made consistent based on review of specification	
2.	13941-9 3.4.1	NOTE #9 ON DWG. 51045-172 DOES NOT AGREE WITH DIMENSIONS (4' WIDE X 3' HIGH)	X		Dimensions will be removed from specification	
3.	16401-2 PART 2 2.1.1	ADD NOTE TO PROVIDE MSDS FOR PENTACHLOROPHENOL PRESERVATIVE.	X		Will be added to Submittal section	
4.	DWG. 51045-163	ON SECTIONS "A" AND "C" SHOW LOCATOR TAPE ABOVE PIPE. SAME FOR SECTIONS "C" AND "D" ON DWG. 51045-166A.	X		Will be added	

H&S DESIGN REVIEW

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2020

MARK AUSTIN

HEALTH AND SAFETY DOCUMENT COMMENTS/RESOLUTION

Project Title OU-4 SOLAR EVAP PONDS IM/IRA Check One Bldg.#
Auth./WHO No. 989618 EO No. 37270 EO Dist. Date N/A Review 60% Page 2 of 2
Reviewers Name KEN MOHR Org. H&S DESIGN REVIEW Final _____
Date Reviewed 4-6-95 Phone No. 4757 FCO _____
Concurrent _____
Other _____

Item No.	Reference Page/Para/Dwg. etc.	Comments Show Actual Proposed Reworking If Possible	A C C	R E J	Proposed Resolution (Include page or drawing number comment was incorporated in) or Justification for Rejection	Date Closed
5.	DWG. 51045-434	EXTEND LOCATOR TAPE OVER END OF STANDPIPE IN DETAILS 1 & 2.	X		will be prepared & been tape is present	

DOCUMENT COMMENTS / RESOLUTIONS (C/R form) Page 1 of 5

Document Type: ☐ DMP. ☐ FCO ☒ Other: GES

PROJECT TITLE 04-4 SOLAR EXAP. BONDS IM/IRA

REVIEWER'S NAME (print) R. P. Campbell

WCF / EJO # 188618 BUILDING # SITE

ORGANIZATION Env Rest Eng PHONE # 9616

CHARGE # 989620

#	REFERENCE: Page/Para/ Dwg #, etc...	COMMENTS: Show actual proposed rewording, if possible	PROPOSED COMMENT DISPOSITION:				DATE COMMENT CLOSED
			A C C	R E J	Plans to Incorporate comment, OR technical justification for rejection		
1	<u>Design Basis</u>	<u>When will modeling be performed and who will do</u>			<u>Assume Parsons</u>		
2	<u>2.2.11.1</u>	<u>State that abandoned piling will be grouted rather than may. Spec 02050 specifies to grout</u>					
3	<u>2.2.11.3</u>	<u>Procedures in Section IV, 2.2.9.1</u>					
	<u>Bullet 1</u>	<u>+2 need to be included. Construction subcontractor will not have Section IV</u>					
4	<u>2.2.14 thru</u>	<u>Address items that the Design</u>					
	<u>2.2.17</u>	<u>will do or requirements that will be met. This is the design, ie "Design does include"</u>					
		<u>not "will"</u>					

FULL CONCURRENCE: I have reviewed the document referenced above from my organization's discipline-specific point of view, concur fully with its implementation, and hereby grant my organization's approval.

FINAL COMMENT DISPOSITION BY DEM: I have made final disposition for all comments not resolved to the satisfaction of the reviewer. Technical justification for the disposition of these comments is attached.

All comments and concerns I may have had about this document have been resolved to my satisfaction.

Design Engineering Manager (print)

Reviewer's Signature _____ Date _____

DEM's Signature _____ Date _____

40

DOCUMENT COMMENTS / RESOLUTIONS (C/R form) Continuation Sheet

PROJECT TITLE _____ REVIEWER'S NAME (print) R.P. Campbell

#	REFERENCE: Page/Para/ Dwg #, etc.	COMMENTS: Show actual proposed rewording, if possible	PROPOSED COMMENT DISPOSITION:			DATE COMMENT CLOSED
			A C C	R E J	Plans to incorporate comment, OR technical justification for rejection	
5	2.0.3	Need detailed specification for WAC including ASTM test methods etc.			- may need to include more info in spec 02200 see 3.3.11	
6	General	Too much use of the word "will" throughout This is final design not conceptual or proposed ie 2.4.1 "cover will be" should be "cover is"				
7	2.4.1.1	Verify seed mix with RFETs New Sanitary Landfill				
8	2.4.1.2	Need Runoff Erosion Resistance and Wind Erosion Resistance				
9	2.4.1.5	Calcs. for 90% Title II				
10	2.4.1.11	Calcs for sand filters - 90% slope stability calcs - 90%				
11	2.4.2.6	Specification for gravel drain				

with have to specify a min. - 10 cm/sec in spec
hydraulic conductivity, and
test method and frequency ROR
OK

Page 3 of 5

12
DE 8-261/3 2(2) 9/25/92

DOCUMENT COMMENTS / RESOLUTIONS (C/R form)

Continuation Sheet

PROJECT TITLE _____ REVIEWER'S NAME (print) R. P. Campbell

#	REFERENCE: Page/Para/ Dwg #, etc.	COMMENTS: Show actual proposed rewording, if possible	PROPOSED COMMENT DISPOSITION:			DATE COMMENT CLOSED
			A C C	R E J	Plans to Incorporate comment, OR technical justification for rejection	
14	App B Geotech Report	Did geotechnical engineer recommend any monitoring of slope such as inclinometers since slope stability and effect of seeps has been an ongoing concern - on drawings should include discussion in design basis				
15	General	No discussion of monitoring instrumentation in Design Basis Document				
16	Specs	Need spec 02225 for Asphalt Concrete				
17		Need spec 02235 for Asphalt membrane				
		- Overall specs look good				

DOCUMENT COMMENTS / RESOLUTIONS (C/R form)

Continuation Sheet

Page 5 of 5

PROJECT TITLE _____ REVIEWER'S NAME (print) RP Campbell

#	REFERENCE: Page/Para/ Dwg #, etc.	COMMENTS: Show actual proposed rewording, if possible	PROPOSED COMMENT DISPOSITION:				DATE COMMENT CLOSED
			A C C	R E J	Plans to incorporate comment, OR technical justification for rejection		
18	Design Basis	No mention of ground entombment of debris					
19	Drawings 51045-175 -177	Inadequate detail for electrical power design Panel details - how does power get to shelter					
20	-432 -433 -434	What do these drawings show as far as utility removal/relocation					
21	-177	Need more information on building - include vendor cut sheets.					
22	General	Include cut sheets for monitoring instrumentation					
23	General	Detail Review of Drawings not completed yet. Also					

Page 1 of 2

65

REVIEWER'S NAME (print) R W No-ta-

ORGANIZATION Rad. Eng. PHONE #

[illegible]

FINAL COMMENT DISPOSITION BY DEM: I have made final disposition for all comments not resolved to the satisfaction of the reviewer. Technical justification for the disposition of these comments is attached.

Design Engineering Manager (print)

DEM'S Signature

012.02

03/01/95

APPENDIX 1

Page 1 of 1

ALARA EVALUATION

Work Document Type GENERAL ENGINEERING PROJECT
 Building 02-7 Room N/A
 EO# 989618
 LOG# 97-003

Description of Work: 02-7 INTERIM MEASURE / INTERIM REMEDIAL ACTION
(IMIRA)

An answer of "Yes" to any of the questions below requires work to go through an ALARA Design Review (ADR) unless exempted by a manager in Radiological Engineering.

Is the proposed work for building or modifying:	Yes	No
1. A process?		X
2. A process line configuration?		X
3. Shield walls?		X
4. An existing standard for a radioactive component or system?		X
5. Structures or equipment for radioactive material storage?	X	
6. Structures or equipment in radiologically controlled areas/radiological buffer areas?	X	

Comments: ALL RADIOLOGICAL CONTROLS WILL BE ADDRESSED
IN THE LOW DISTURBANCE PERMIT

Radiological Engineer Reviewer

R. W. NORTON
 Printed Name

[Signature]
 Signature

7/15/95
 Date

446/446